National Institute of Environmental Health Sciences

Climate change and our environment: The effect on respiratory and allergic disease

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Abstract:

Climate change is a constant and ongoing process. It is postulated that human activities have reached a point at which we are producing global climate change. It provides suggestions to help the allergist/environmental physician integrate recommendations about improvements in outdoor and indoor air quality and the likely response to predicted alterations in the earth's environment into his or her patient's treatment plan. It incorporates references retrieved from Pub Med searches for topics, including: climate change, global warming, global climate change, green house gasses, air pollution, particulates, black carbon, soot and sea level, as well as references contributed by the individual authors. Many changes that affect respiratory disease are anticipated. Examples of responses to climate change include energy reduction retrofits in homes that could potentially affect exposure to allergens and irritants, more hot sunny days that increase ozone-related difficulties, and rises in sea level or altered rainfall patterns that increase exposure to damp indoor environments. Climate changes can also affect ecosystems, manifested as the appearance of stinging and biting arthropods in new areas. Higher ambient carbon dioxide concentrations, warmer temperatures, and changes in floristic zones could potentially increase exposure to ragweed and other outdoor allergens, whereas green practices such as composting can increase allergen and irritant exposure. Finally, increased energy costs may result in urban crowding and human source pollution, leading to changes in patterns of infectious respiratory illnesses. Improved governmental controls on airborne pollutants could lead to cleaner air and reduced respiratory diseases but will meet strong opposition because of their effect on business productivity. The allergy community must therefore adapt, as physician and research scientists always have, by anticipating the needs of patients and by adopting practices and research methods to meet changing environmental conditions.

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Resource Description

Communication: ☑

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience: ☑

audience to whom the resource is directed

Health Professional

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution

Air Pollution: Allergens, Interaction with Temperature, Ozone

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Global or Unspecified

Health Co-Benefit/Co–Harm (Adaption/Mitigation):

specification of beneficial or harmful impacts to health resulting from efforts to reduce or cope with greenhouse gases

A focus of content

Health Impact:

specification of health effect or disease related to climate change exposure

Respiratory Effect

Respiratory Effect: Asthma, Upper Respiratory Allergy

Resource Type:

format or standard characteristic of resource

Review

Timescale:

time period studied

Time Scale Unspecified